What is claimed is:

1. A method of detecting the presence of a transmitted waveform, comprising the steps of:

(a) receiving a first signal comprising a waveform where the waveform has a portion thereof which repeats at a predetermined interval;

(b) delaying the first signal an integer number of the predetermined intervals to provide a second signal;

(c) combining the first and second signals to produce a correlation signal;

(d) evaluating the correlation signal against a predetermined criteria; and

(e) detecting the waveform as a function of the evaluation of the correlation signal.

2. The method of Claim 1 wherein steps (b) and (c) are repeated for a plurality of intervals to produce a plurality of correlation signals; and

wherein the step of evaluating comprises determining the maximum correlation signal from the plurality of correlation signals.

3. The method of Claim 1 wherein the transmitted waveform comprises a plurality of blocks of known data each having a first length (Nk) and a plurality of blocks of unknown data each having a second length (Nu);

wherein the blocks of known data are repeated every R known blocks; and

wherein the interval by which the first signal is delayed is approximately equal to R(Nk+Nu).

4. The method of Claim 1 wherein the transmitted waveform is a modulated waveform and wherein the modulated waveform is detected without demodulating the waveform.

5. The method of Claim 1 wherein the transmitted waveform contains a frequency offset and wherein the transmitted waveform is detected without compensating for the frequency offset.

6. The method of Claim 1 further comprising the step of classifying the type of waveform detected as a function of the interval delay.

7. The method of Claim 1 wherein the step of evaluating includes the step of filtering the correlation signal with an N – tap combining filter where N is a function of the waveform being detected.

8. The method of Claim 1 wherein the transmitted waveform comprises a plurality of blocks of known data each having a first length (Nk) and a plurality of blocks of unknown data each having a second length (Nu);

wherein the blocks of known data are repeated every R known blocks; and

wherein the step of evaluating includes masking of the correlation signal to mask the signal energy introduced by the unknown data.

9. The method of Claim 8 wherein the step of masking includes the use of a rotating mask having a Nk length of first weighting values and a Nu length of second weighting values; and

wherein the first weighting values and the second weighting values are chosen to mask the signal energy associated with the unknown data.

10. A method of detecting the presence of a first signal having a portion which repeats at a predetermined interval, comprising the steps of:

(a) delaying the first signal by an integer number of intervals to provide a second signal;

(b) combining the first and second signals to produce a correlation signal; and

(c) evaluating the correlation signal against predetermined criteria to thereby determine the presence of the first signal.

11. The method of Claim 10 wherein the predetermined criteria includes determining if the correlation signal exceeds a predetermined threshold.

12. The method of Claim 10 wherein the predetermined criteria includes determining if the correlation signal is within a predetermined range of values.

13. The method of Claim 10 where steps (a) and (b) are repeated for a plurality of intervals to produce a plurality of correlation signals;

and wherein the step of evaluating comprises determining the maximum correlation signal among the plurality of correlation signals.

14. The method of Claim 10 wherein the first signal comprises a plurality of blocks of known data each having a first length (Nk) and a plurality of blocks of unknown data each having a second length (Nu);

wherein the blocks of known data are repeated every R known blocks; and

wherein the first signal is delayed by approximately R(Nk+Nu)

15. The method of Claim 10 wherein the first signal is a modulated signal; and wherein the first signal is detected without demodulating the first signal.

16. The method of Claim 10 wherein the first signal contains a frequency offset; and

wherein the first signal is detected without compensating for the frequency offset.

17. The method of Claim 10 further comprising the step of classifying the type of signal detected as a function of the delay.

18. In a method of detecting the presence of a waveform having a portion which repeats periodically, the improvement comprising the step of detecting the presence of the waveform as a function of the repetition rate of the periodically repeating portion of the waveform.

19. In a method of detecting the presence of a waveform having a frequency offset, the improvement comprising the step of detecting the presence of the waveform without compensating for the frequency offset.

20. In a method of detecting the presence of a modulated waveform, the improvement comprising the step of detecting the presence of the waveform without demodulating the waveform.

21. An apparatus for detecting the presence of a transmitted waveform having a portion which repeats at a predetermined interval, comprising:

means for receiving a first signal containing the transmitted waveform;

means for delaying the first signal by an integer number of intervals to provide a second signal;

means for combining the first and second signals to produce a correlation signal; and

means for evaluating the correlation signal against a predetermined criteria to thereby determine the presence of the transmitted waveform.

22. The apparatus of Claim 21 wherein the means for evaluating comprises an N – tap combining filter where N is a function of the waveform being detected.

23. The apparatus of Claim 21 further comprising means for classifying the type of signal detected as a function of the interval delay.